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Brownell

MASTER Steel Heating BOILERS

ELECTRIC BROWNELL BOILERS WELDED

Catalog M65

July 1, 1929

Cancels and Supersedes All Previous Issues

THE BROWNELL COMPANY

DAYTON, O. U. S. A.

A. I. A. File No. 30C. 1.

Printed in U. S. A.

BROWNELL MASTER BOILERS

For Coal Hand-Firing

STEAM TRIMMINGS: Consist of Pop Safety Valves, Steam Gage with siphon, Water Column complete with Water Gage, Gage Cocks, and necessary piping, also Automatic Damper Regulator with lever, weight and chain.

NO TRIMMINGS are furnished with Hot Water Boilers.

FIRING TOOLS: Hoe, Clinker Hook, Slice Bar and Flue Cleaner with handle.

Boiler Number	M-500R*	M-501R*	M-501*	M-502*	M-503*	M-504*	M-505*	M-506*	M-507	M-508	M-509	M-510	M-511	M-512	M-513
Steam Capacity Sq. Ft.	750	850	1100	1350	1550	1850	2200	2600	3000	3550	4100	4900	5500	6100	6600
Hot Water Capacity Sq. Ft.	1200	1360	1760	2160	2480	2960	3520	4160	4800	5590	6560	7840	8800	9760	10550
Code—Steam Boiler	Harit	Harfu	Habab	Habec	Habco	Habdy	Hacba	Hacdo	Hacla	Hacgi	Hacmu	Hacyl	Hadac	Hadef	Hadik
Code—Water Boiler	Kabco	Kabdu	Kebeb	Keboc	Kebax	Kebus	Kebix	Kebry	Kedfu	Kedca	Kedby	Keeta	Keelo	Keest	Kefki
SPECIFICATIONS															
Heating Surface Sq. Ft.	56	65	83	99	118	140	162	191	228	256	288	352	395	429	463
Grate Area Sq. Ft.	3.6	4.2	5.3	6.4	7.5	8.9	10	11	11.1	12.3	13.6	14.9	16.4	17.4	17.4
Height Water Line In.	50½	50½	50½	50½	55	55	58	58	62¼	62¼	62¼	69¼	69¼	72½	72½
Width of Firebox In.	18¾	18¾	18¾	18¾	21¾	21¾	23¾	23¾	29¾	29¾	29¾	35¾	35¾	41¾	41¾
Length of Firebox In.	27¾	32¾	40¾	49¾	49¾	58¾	60¾	72¾	66¾	75¾	85¾	75¾	85¾	72⅝	78⅝
Diameter of Breeching In.	10	10	12	12	16	16	18	18	20	20	20	22	22	24	24
Diameter of Stack In.	10	10	12	12	16	16	18	18	18	18	18	20	20	22	22
Minimum Height of Stack Ft.	40	40	45	45	55	55	60	60	60	60	60	60	60	70	70
Diam. of Breeching, 2 Boilers In.	16	16	20	20	26	26	28	28	30	30	30	34	34	38	38
Diam. of Stack, 2 Boilers In.	15	15	18	18	24	24	26	26	28	28	28	32	32	34	34
Min. Ht. of Stack, 2 Boilers Ft.	45	45	50	50	60	60	65	65	70	70	70	75	75	80	80
Size of Steam Outlet In.	3	3	4	4	4	4	5	5	6	6	6	6	6	8	8
Size of Returns In.	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4
No. and Size of Safety Valves In.	1—1¼	1—1¼	1—1¼	1—1¼	1—1½	1—1½	1—2	1—2	1—2	1—2	1—2	1—2½	1—2½	1—2½	1—2½
Shipping Weight, Approx. Lbs.	1700	1900	2350	2750	3150	3550	4050	4600	5100	5600	6100	7000	7550	7850	8400
Boiler Covering Required Sq. Ft.	39	42	48	55	64	72	78	88	105	114	121	134	145	151	158
Size of Water Coils In.	¾	¾	¾	¾	¾	¾	1	1	1	1	1	1¼	1¼	1¼	1¼
**Cap. of Water Coils (gals. per hr.)	40	40	40	40	40	40	75	75	75	75	75	125	125	125	125

SEE PAGE 8 FOR DIMENSIONS

Stack sizes listed herein are minimum and are essential to satisfactory and economical operation

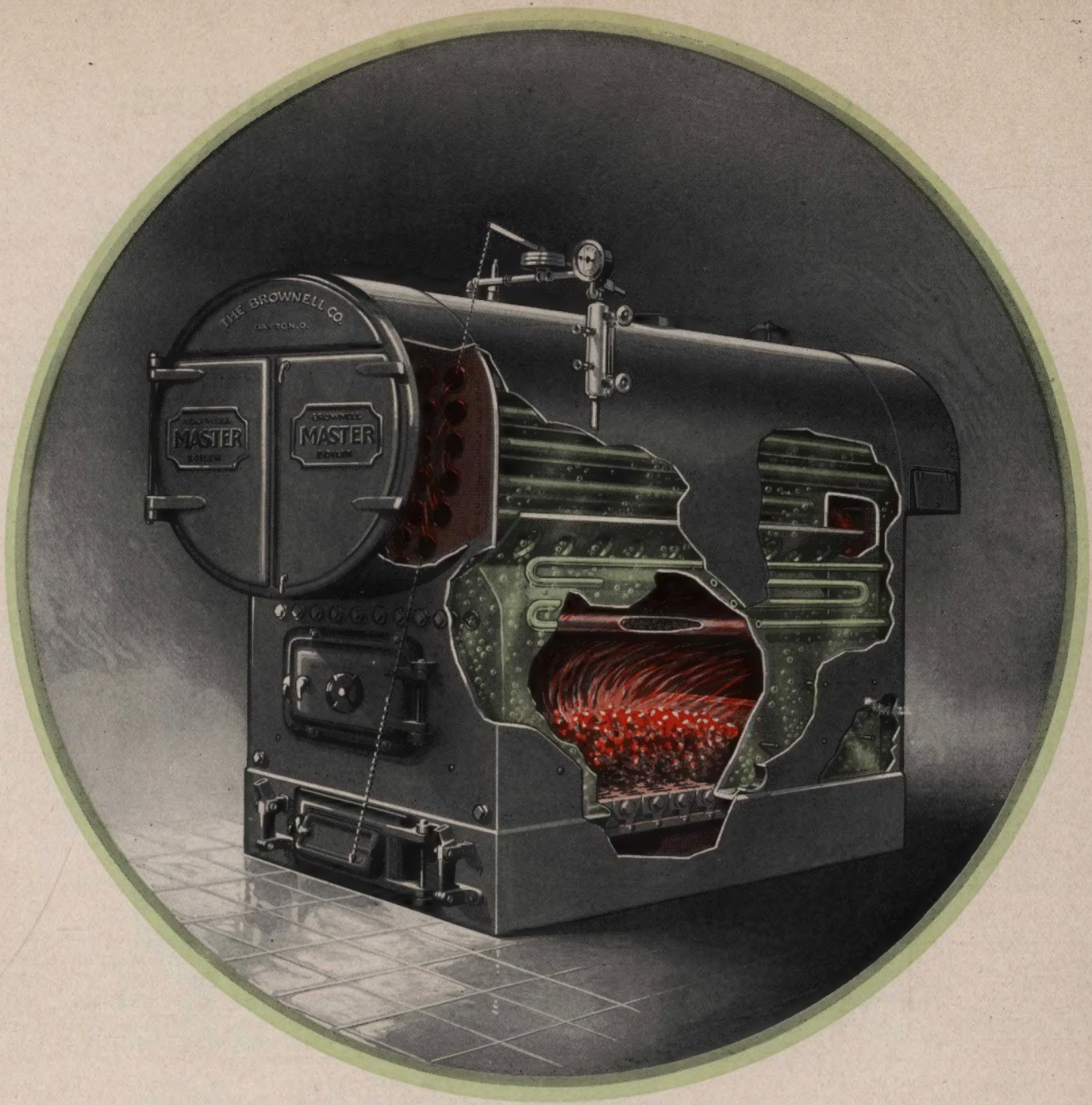
Boiler Number	M-514	M-515	M-516	M-517	M-518	M-519	M-520	M-521	M-522	M-523	M-524	M-525	M-526	M-527
Steam Capacity Sq. Ft.	7200	8200	9100	10000	11500	13000	14300	15250	16200	18000	19000	21000	22500	24500
Hot Water Capacity Sq. Ft.	11520	13120	14560	16000	18400	20800	22900	24400	25900	28800	30800	32800	36000	39200
Code—Steam Boiler	Hadon	Hadsy	Hadux	Hafda	Hafge	Hafmo	Halto	Halsy	Halex	Halis	Halom	Hamos	Hamip	Hangy
Code—Water Boiler	Kefty	Kefmu	Kekis	Kekob	kekax	Kelam	Kelft	Kelso	Kelts	Kemon	Kemab	Kemco	Kexel	Kexos
SPECIFICATIONS														
Heating Surface Sq. Ft.	507	571	637	695	800	906	991	1058	1125	1243	1320	1418	1539	1700
Grate Area Sq. Ft.	19.1	19.9	21.9	21.9	22.4	22.4	24.8	24.8	27.3	30.0	32.7	35.5	35.8	38.8
Height Water Line In.	72½	79½	79½	79½	83¼	83¼	93½	93½	93½	97¼	97¼	97¼	105	105
Width of Firebox In.	41¾	47¾	47¾	47¾	53¾	53¾	59½	59½	59½	65½	65½	65½	71½	71½
Length of Firebox In.	86½	76½	84½	92½	87½	99½	87¼	93¼	99¼	93¼	99¼	105¼	99¼	111¼
Diameter of Breeching In.	24	26	26	26	28	28	30	30	30	34	34	34	38	38
Diameter of Stack In.	22	24	24	24	26	26	28	28	28	32	32	32	36	36
Minimum Height of Stack Ft.	70	70	70	70	75	75	80	80	80	90	90	90	100	100
Diameter of Breeching, 2 Boilers In.	38	40	40	40	44	44	50	50	50	54	54	54	54	54
Diameter of Stack, 2 Boilers In.	34	36	36	36	40	40	46	46	46	50	50	50	50	50
Minimum Height of Stack, 2 Boilers Ft.	80	85	85	85	85	85	90	90	90	95	95	95	100	100
Size of Steam Outlet In.	8	8	8	8	8	8	10	10	10	10	10	10	12	12
Size of Returns In.	4	4	4	4	4	4	5	5	5	5	5	5	6	6
Number and Size of Safety Valves In.	1—3	1—3	1—3	1—3	1—3	1—3	2—2	2—2	2—2½	2—2½	2—2½	2—2½	2—3	2—3
Shipping Weight, Approximate Lbs.	8900	9900	10550	11200	12200	13750	15750	16250	16800	18800	19550	20300	22800	24350
Boiler Covering Required Sq. Ft.	168	170	180	191	201	219	226	236	246	261	271	281	299	321
Size of Water Coils In.	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	2	2	2	2	2
**Capacity of Water Coils (gals. per hr.)	125	125	125	125	175	175	175	175	175	225	225	225	225	225

SEE PAGE 8 FOR DIMENSIONS

* These sizes of boilers contain no Bridgewall—Grates completely fill base.

** Capacities based on supply water temperature at 40°, outlet temperature 140° and water in boiler 180° F. Suitable Hot Water Storage Tank must be installed for water coil.

The Brownell Company
Dayton, Ohio



The Brownell MASTER Electric Welded Steel Boiler for COAL

A Sturdy, Efficient Boiler at a Reasonable Price

Seventy-four years experience as boiler manufacturers, and unusually complete and up-to-date plant facilities, enable the Brownell Company to produce a strictly high grade product at the lowest price commensurate with quality.

Economy of Operation Due to Advanced Design

Boiler operating costs vary widely. In the Brownell, operating costs run low, due to liberal firebox capacity, long heat travel, a special tapered water leg feature, making for unusually rapid circulation, large liberating area, etc.

BROWNELL MASTER BOILERS

For Stoker, Oil and Gas Firing

STEAM TRIMMINGS: Consist of Pop Safety Valves, Steam Gage with Siphon, Water Column complete with Water Gage, Gage Cocks and necessary piping.

No TRIMMINGS are furnished with Hot Water Boilers.

FIRING TOOLS: Flue Cleaner with handle is only tool furnished with these boilers.

Boiler Number	M-550R*	M-551R*	M-551*	M-552*	M-553*	M-554*	M-555*	M-556*	M-557	M-558	M-559	M-560	M-561	M-562	M-563
Steam Capacity Sq. Ft.	900	1050	1400	1700	1900	2200	2700	3150	3650	4250	4800	5700	6500	7250	7600
Hot Water Capacity Sq. Ft.	1440	1680	2240	2720	3040	3520	4320	5020	5840	6800	7680	9120	10400	11600	12160
Code—Steam Boiler	Lebab	Lebdi	Lecba	Lecdo	Lects	Lecpy	Ledab	Ledes	Ledge	Ledfy	Ledix	Ledur	Lefel	Lefor	Lefma
Code—Water Boiler	Midab	Mibad	Mibec	Mibso	Mibux	Micro	Micus	Micti	Midaf	Midel	Midge	Midfo	Mifba	Mifco	Mifdu

SPECIFICATIONS — SEE PAGE 8 FOR DIMENSIONS

Heating Surface Sq. Ft.	56	65	83	99	118	140	162	191	228	256	288	352	395	429	463
Height Water Line In.	50½	50½	50½	50½	55	55	58	58	62¼	62¼	62¼	69¼	69¼	72½	72½
Width of Firebox In.	18¾	18¾	18¾	18¾	21¾	21¾	23¾	23¾	29¾	29¾	29¾	35¾	35¾	41¾	41¾
Length of Firebox In.	27¾	32¾	40¾	49¾	49¾	58¾	60¾	72¾	66¾	75¾	85¾	75¾	85¾	72⅝	78⅛
Diameter of Breeching In.	10	10	12	12	16	16	18	18	20	20	20	22	22	24	24
Diameter of Stack In.	10	10	12	12	16	16	18	18	18	18	18	20	20	22	22
Minimum Height of Stack Ft.	40	40	45	45	55	55	60	60	60	60	60	60	60	70	70
Diam. of Breeching, 2 Boilers In.	16	16	20	20	26	26	28	28	30	30	30	34	34	38	38
Diam. of Stack, 2 Boilers In.	15	15	18	18	24	24	26	26	28	28	28	32	32	34	34
Min. Ht. of Stack, 2 Boilers Ft.	45	45	50	50	60	60	65	65	70	70	70	75	75	80	80
Size of Steam Outlet In.	3	3	4	4	4	4	5	5	6	6	6	6	6	8	8
Size of Returns In.	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4
No. and Size of Safety Valves In.	1—1¼	1—1¼	1—1¼	1—1¼	1—1½	1—1½	1—2	1—2	1—2	1—2	1—2	1—2½	1—2½	1—2½	1—2½
Shipping Weight, Approx. Lbs.	1550	1700	2100	2450	2800	3100	3550	4050	4550	5000	5400	6250	6750	7000	7550
Boiler Covering Required Sq. Ft.	39	42	48	55	64	72	78	88	105	114	121	134	145	151	158
Size of Water Coils In.	¾	¾	¾	¾	¾	¾	1	1	1	1	1	1¼	1¼	1¼	1¼
**Cap. of Water Coils (gals. per hr.)	40	40	40	40	40	40	75	75	75	75	75	125	125	125	125

Stack sizes listed herein are minimum and are essential to satisfactory and economical operation

Boiler Number	M-564	M-565	M-566	M-567	M-568	M-569	M-570	M-571	M-572	M-573	M-574	M-575	M-576	M-577
Steam Capacity Sq. Ft.	8500	9800	10700	11600	13300	15000	16200	17200	18500	21000	22000	24000	25500	28000
Hot Water Capacity Sq. Ft.	13600	15700	17100	18600	21300	24000	25900	27500	29600	33600	35200	38400	40800	44800
Code—Steam Boiler	Lefod	Lefis	Lefky	Legos	Leger	Legan	Legly	Lehas	Leksi	Lekmu	Leklo	Lemon	Lemty	Lemsu
Code—Water Boiler	Mifel	Mifix	Mifty	Mikad	Mikos	Mikix	Milon	Milmi	Milsu	Milky	Milup	Mimot	Mimux	Minar

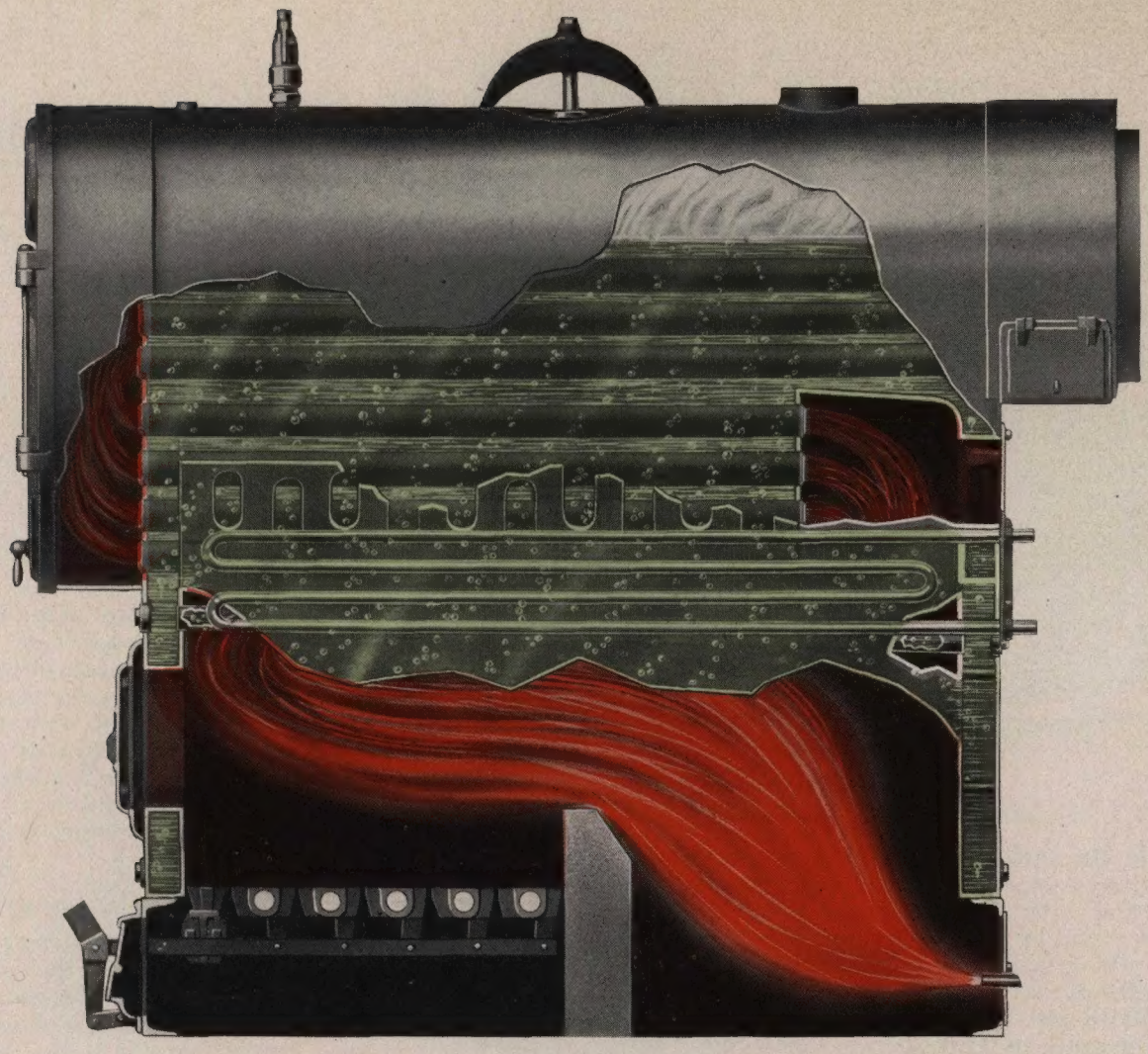
SPECIFICATIONS — SEE PAGE 8 FOR DIMENSIONS

Heating Surface Sq. Ft	507	571	637	695	800	906	991	1058	1125	1243	1320	1418	1539	1700
Height Water Line In.	72½	79½	79½	79½	83¼	83¼	93½	93½	93½	97¼	97¼	97¼	105	105
Width of Firebox In.	41¾	47¾	47¾	47¾	53¾	53¾	59½	59½	59½	65½	65½	65½	71½	71½
Length of Firebox In.	86½	76½	84½	92½	87½	99½	87¼	93¼	99¼	93¼	99¼	105¼	99¼	111¼
Diameter of Breeching In.	24	26	26	26	28	28	30	30	30	34	34	34	38	38
Diameter of Stack In.	22	24	24	24	26	26	28	28	28	32	32	32	36	36
Minimum Height of Stack Ft.	70	70	70	70	75	75	80	80	80	90	90	90	100	100
Diameter of Breeching, 2 Boilers In.	38	40	40	40	44	44	50	50	50	54	54	54	54	54
Diameter of Stack, 2 Boilers In.	34	36	36	36	40	40	46	46	46	50	50	50	50	50
Minimum Height of Stack, 2 Boilers Ft.	80	85	85	85	85	85	90	90	90	95	95	95	100	100
Size of Steam Outlet In.	8	8	8	8	8	8	10	10	10	10	10	10	12	12
Size of Returns In.	4	4	4	4	4	4	5	5	5	5	5	5	6	6
Number and Size of Safety Valves In.	1—3	1—3	1—3	1—3	1—3	1—3	2—2	2—2	2—2½	2—2½	2—2½	2—2½	2—3	2—3
Shipping Weight, Approximate Lbs.	7800	8700	9350	9900	10900	12450	14250	14750	15300	17000	17550	18300	20700	22050
Boiler Covering Required Sq. Ft.	168	170	180	191	201	219	226	236	246	261	271	281	299	321
Size of Water Coils In.	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	2	2	2	2	2
**Capacity of Water Coils (gals. per hr.)	125	125	125	125	175	175	175	175	175	225	225	225	225	225

* No Grates, Bridgewall or supports for same are furnished with these boilers unless otherwise ordered.

** Capacities based on supply water temperature at 40°, outlet temperature 140° and water in boiler 180° F. Suitable Hot Water Storage Tank must be installed for water coil.

The Brownell Company
Dayton, Ohio



The Brownell MASTER Electric Welded Steel Boiler for OIL or GAS

Can be Used as an Oil-Burning Boiler

While both sections of the grate in the Brownell MASTER Boiler are required when burning coal, this boiler can be readily adapted for oil burning by removing the rear section of the grate.

A practical adaptation lies in the fact that the front section of the grate remains in when burning oil so as to be instantly available for coal burning, should anything happen to the oil supply.

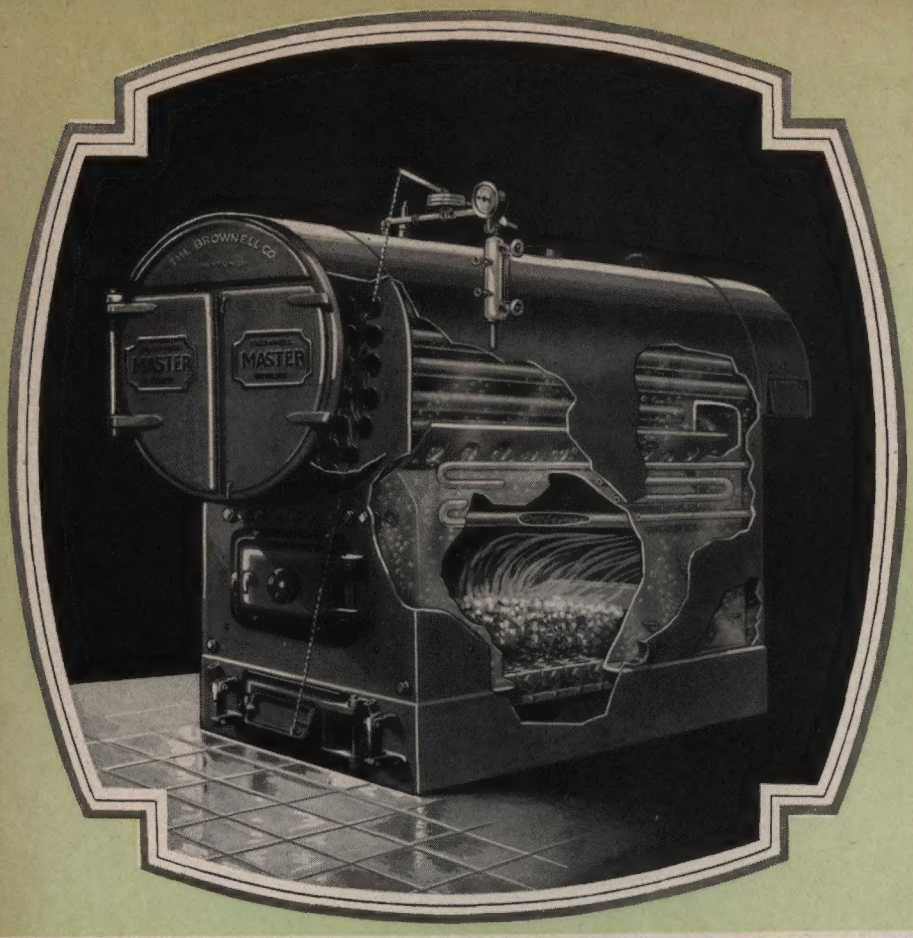
When desired, both coal and oil may be used for fuel simultaneously, coal in front and oil in rear.

A Four-Pass Multiple-Feature Boiler When Oil Fired

When the Brownell MASTER Boiler is equipped with an oil burner the heat travels four times through the boiler before it finally reaches the smoke connection at the upper rear, very materially increasing the efficiency.

The MASTER is also, when oil fired, a multiple-feature boiler. It combines all in one unit an effective heating plant, ample domestic hot water facilities; thereby eliminating the auxiliary heater; also provision for odorless incineration, obviating the necessity of installing an auxiliary incinerator.

SUPERIOR NEW



Note the interior construction showing how the tapered water legs add great strength to the self-supporting crown sheet

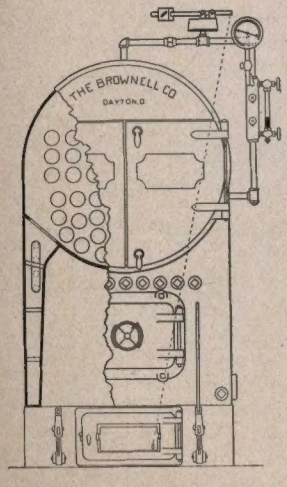
Long Gas Travel

The Brownell MASTER being a 3-pass boiler when used for coal, does not depend upon baffles and various other special features sometimes found on boilers of this and other types. Everything necessary to assist the gas travel is in built—not accessories added on. The Brownell MASTER will, therefore, remain a 3-pass boiler as long as the boiler itself is in existence.

Easier to Fire and a Quick Steamer

The unusually large heating area as well as the rapid circulation of water in the Brownell makes for fast heat absorption and makes the Brownell a quick steamer.

More Than Usual Radiant Heating Surface



It is well known that the efficiency of a boiler is largely dependent upon the radiant heating surface provided. The Brownell MASTER Welded Steel Boiler has more radiant heating surface than other boilers with fireboxes of the same size, mainly because of the addition of water tubes in the upper portion of the firebox. Not only do these water tubes add the most effective surface in the entire boiler to the radiant area, but they also insure rapid circulation because of their exposed location right in the firebox and immediately above the fire.

Large Liberating Area

In the Brownell MASTER the steam liberating area is considerably greater than in the general run of boilers, thereby increasing the efficiency of the boiler, also insuring dry steam and a steadier water line.

Tapered Water Legs

This is a distinctive Brownell feature. The water expands as its temperature rises. Consequently as the water passes up thru the water legs, gaining in heat as it rises, the gradually widening water legs accommodate the expansion. The tapered water legs in company with liberal water passages thru out assist greatly in assuring a free, unimpeded circulation of the water.

Service Coils in the Water Legs

Apartments, office buildings, institutions and homes all require hot water service the year around. This is available through the use of the Brownell MASTER Boiler regardless of heating requirements. Furthermore, it is obtained in warm weather without heating the building. This condition is met by installing the service coils in the upper part of the tapered water legs, thereby heating the coils by immersion in the hot water rather than by having them in direct contact with the flame. This arrangement also eliminates all likelihood of burning out the coils

Low Water Line

The water line in the MASTER is above the top row of fire tubes leaving the liberating area entirely free from obstructions. The water line, nevertheless, stands lower (closer to the floor line) than is usual in boilers of this type. This feature makes the Brownell MASTER particularly suitable for buildings with low basements because it prevents waterlogging of the radiators on the lower floor.

Large Combustion Chamber and Double Section Grates

The Brownell MASTER has a large combustion chamber which makes directly for better combustion. This large firebox also makes it easier to enter the boiler to clean it, inspect it or repair it.

The Brownell Company
Dayton, Ohio

FEATURES YOU'LL APPRECIATE IN

Brownell

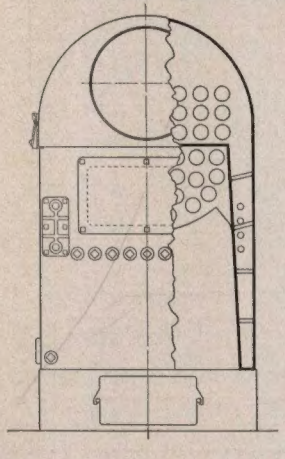
Electric Welded Steel

Boilers

The grates are built in two sections, front and rear, on all but the smaller sizes. Each section is composed of easily removable bars. Both features of this arrangement make for economy when partial replacement of the grate becomes necessary.

The bars in the Brownell grate are extra heavy and of a special grade of iron and available in various designs, each adapted to the use of some particular grade of coal.

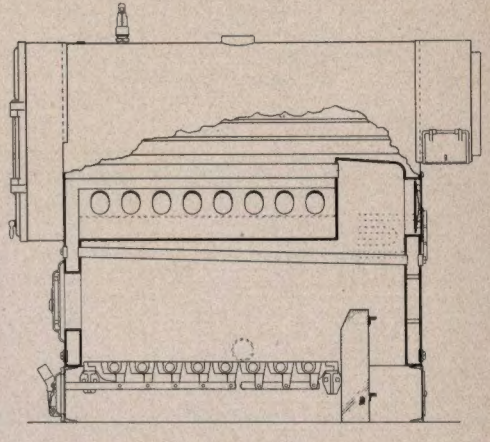
By allowing the rear section to cover over with ashes and clinkers a slow fire can be maintained in the front half of the firebox only during mild weather—providing just enough heat to take off the chill and supply hot water.



Note how the water legs are tapered to allow for expansion of the water as it contacts the heating surface of the firebox, also how the water coil is installed vertically.

Unusual Strength

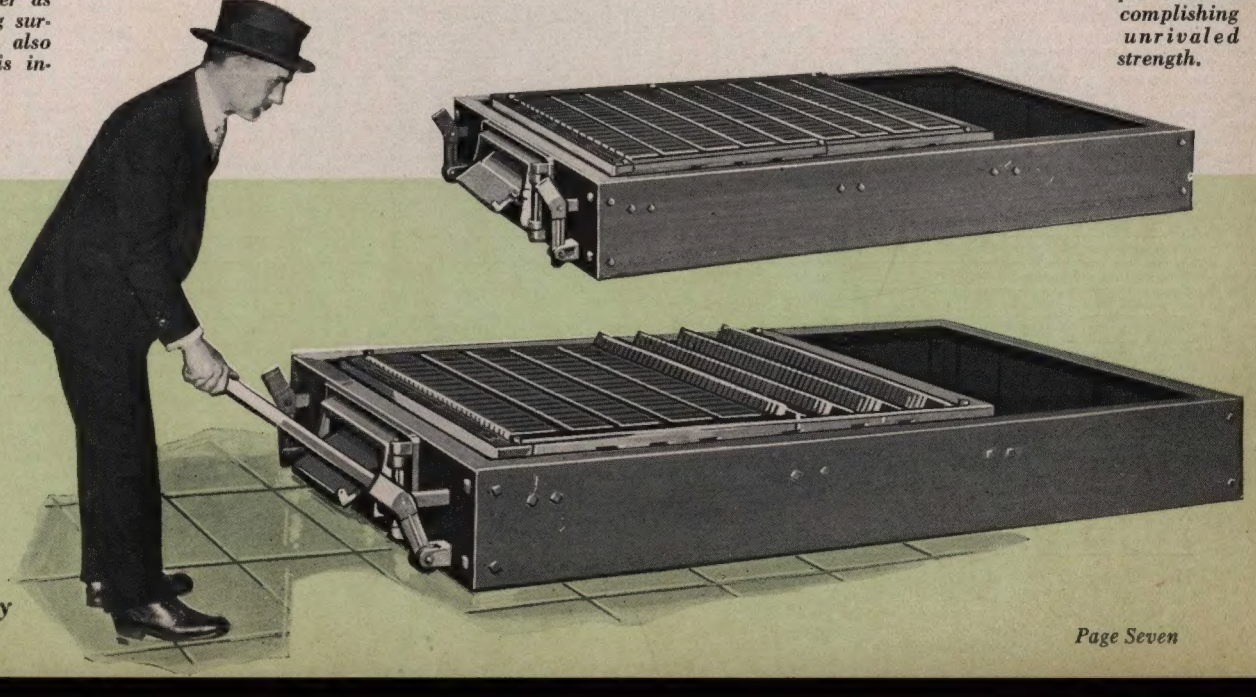
One of the distinctive construction features of the Brownell MASTER welded boiler is the one-piece crown sheet. This crown sheet extends from one outside side sheet to the other and is welded thereto throughout its entire length, making it self-supporting. In addition, the side sheets of the firebox are welded to the crown sheet, adding additional strength and rigidity to crown sheet.



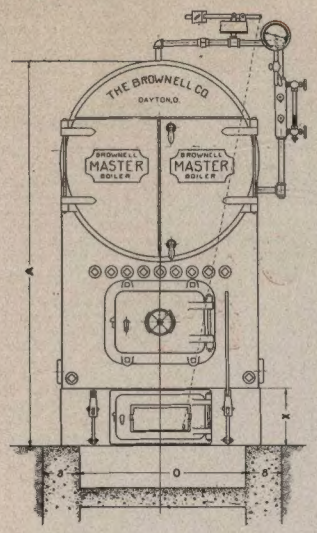
Note the great number of openings in the self-supporting crown sheet which allow free circulation. The crown sheet is solidly welded to the one piece wrapper sheet accomplishing unrivaled strength.

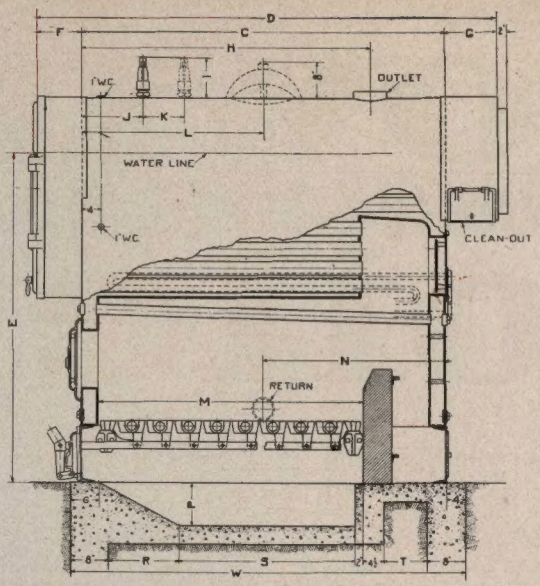
Accessibility of Tubes, Etc.

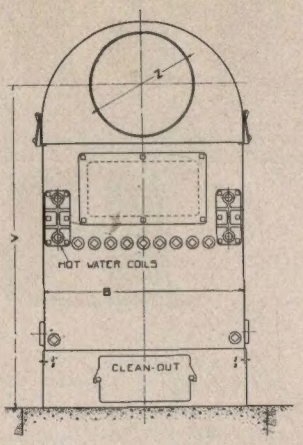
In addition to the usual front doors an extra entrance is provided in the rear immediately below the smoke connection and directly opposite the rear tubes. This makes all fire tubes equally accessible for both front and rear inspection and repair purposes. All other parts are equally accessible.



Brownell MASTER Boiler Setting Dimensions







Boiler Number	M-500R M-550R	M-501R M-551R	M-501 M-551	M-502 M-552	M-503 M-553	M-504 M-554	M-505 M-555	M-506 M-556	M-507 M-557	M-508 M-558	M-509 M-559	M-510 M-560	M-511 M-561	M-512 M-562	M-513 M-563
A—Height of Boiler In.	56	56	56	56	61½	61½	66	66	74	74	74	81	81	87	87
B—Width of Boiler In.	24	24	24	24	27	27	30	30	36	36	36	42	42	48	48
C—Length of Boiler In.	34	39	47	56	56	65	68	80	74	83	93	83	93	80	86
D—Length of Boiler Overall In.	49⅜	54⅜	62⅜	71⅜	72⅜	81⅜	84⅜	96⅜	93½	102½	112½	103½	113½	103½	109½
E—Height of Water Line In.	50½	50½	50½	50½	55	55	58	58	62¼	62¼	62¼	69¼	69¼	72½	72½
F—Depth of Front Smokehood In.	7⅜	7⅜	7⅜	7⅜	7¾	7¾	7¾	7¾	8½	8½	8½	9½	9½	9½	9½
G—Depth of Rear Smokehood In.	8	8	8	8	9	9	9	9	11	11	11	11	11	14	14
H—Location of Steam Outlet In.	17	19½	23½	28	28	32½	34	40	37	41½	46½	41½	46½	40	43
I—Height of Safety Valve In.	7	7	7	7	8	8	9	9	9	9	9	11	11	11	11
M—Length of Grates In.	27⅜	32⅜	40⅜	49⅜	49⅜	58⅜	60⅜	72⅜	54	60	66	60	66	60	60
N—Location, Return Openings In.	17	19½	23½	28	28	32½	34	40	37	41½	46½	41½	46½	40	43
O—Width of Ash Pit In.	17	17	17	17	20	20	23	23	29	29	29	35	35	41	41
P—Sug. Depth of Ash Pit In.	6	6	6	6	6	6	6	6	9	9	9	9	9	9	9
R—Foundation Dimension In.	8	8	8	8	8	8	8	8	15	15	15	15	15	15	15
S—Foundation Dimension In.	15	20	28	37	37	46	48½	60½	34½	40½	49½	40½	46½	40½	40½
V—Ht. Center Smoke Connec. In.	49¼	49¼	49¼	49¼	53⅜	53⅜	56⅜	56⅜	63	63	63	68	68	73½	73½
W—Length of Foundation In.	40	45	53	62	62	71	74	86	80	89	99	89	99	86	92
X—Height of Base In.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Z—Diam. Smoke Connection In.	10	10	12	12	16	16	18	18	20	20	20	22	22	24	24

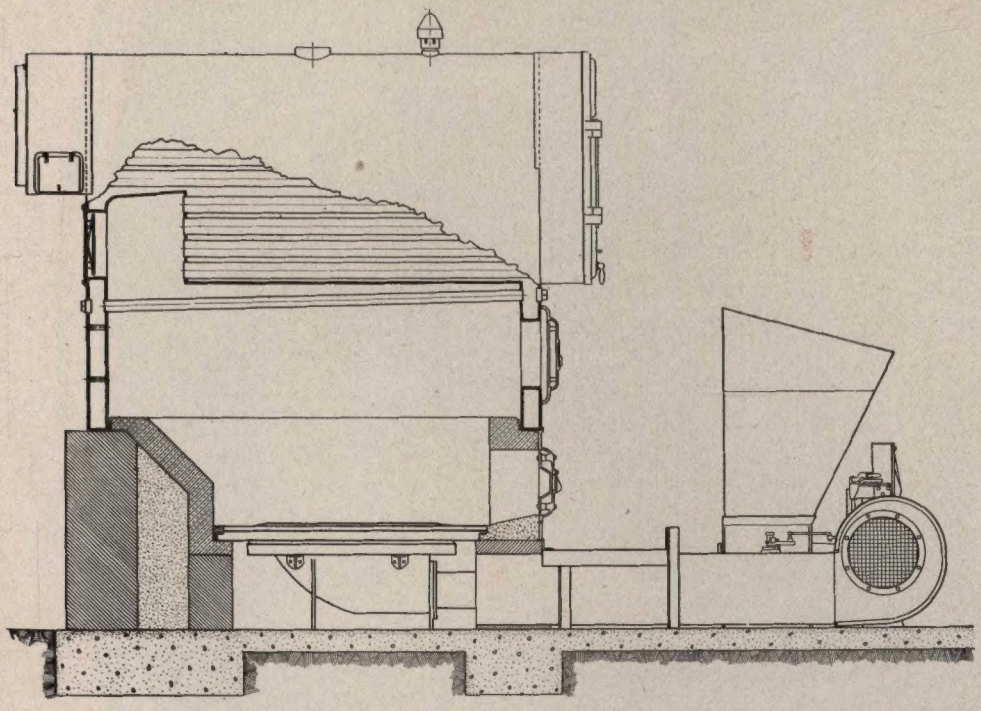
Depth of foundation depends on nature of soil.

Boiler Number	M-514 M-564	M-515 M-565	M-516 M-566	M-517 M-567	M-518 M-568	M-519 M-569	M-520 M-570	M-521 M-571	M-522 M-572	M-523 M-573	M-524 M-574	M-525 M-575	M-526 M-576	M-527 M-577
A—Height of Boiler In.	87	93	93	93	100	100	111	111	111	118	118	118	126	126
B—Width of Boiler In.	48	54	54	54	60	60	66	66	66	72	72	72	78	78
C—Length of Boiler In.	94	84	92	100	95	107	95	101	107	101	107	115	107	119
D—Length of Boiler Overall In.	117½	109½	117½	125½	120½	132½	122½	128½	134½	128½	134½	142½	140½	152½
E—Height of Water Line In.	72½	79½	79½	79½	83¼	83¼	93½	93½	93½	97¼	97¼	97¼	105	105
F—Depth of Front Smokehood In.	9½	10½	10½	10½	10½	10½	11½	11½	11½	11½	11½	11½	13½	13½
G—Depth of Rear Smokehood In.	14	15	15	15	15	15	16	16	16	16	16	16	20	20
H—Location of Steam Outlet In.	47	62	70	75	72	81	72	76	81	76	81	85	81	90
I—Height of Safety Valve In.	13	13	13	13	13	13	9	9	11	11	11	11	13	13
M—Length of Grates In.	66	60	66	66	60	60	60	60	66	66	72	78	72	78
N—Location of Return Openings In.	47	42	46	50	47½	53½	47½	50½	53½	50½	53½	56½	53½	59½
O—Width of Ash Pit In.	41	47	47	47	53	53	59	59	59	65	65	65	71	71
P—Suggested Depth of Ash Pit In.	9	12	12	12	12	12	12	12	12	12	12	12	12	12
R—Foundation Dimension In.	15	18	18	18	18	18	18	18	18	18	18	18	18	18
S—Foundation Dimension In.	46½	37½	43½	43½	37½	37½	37¾	37¾	43¾	43¾	49¾	57¾	49¾	55¾
V—Height Center Smoke Connection In.	73½	77	77	77	82	82	91½	91½	91½	97	97	97	105	105
W—Length of Foundation In.	100	90	98	106	101	113	101	107	113	107	113	121	113	125
X—Height of Base In.	12	12	12	12	12	12	15	15	15	15	15	15	15	15
Z—Diameter Smoke Connection In.	24	26	26	26	28	28	30	30	30	34	34	34	38	38

Hot Water Boiler dimensions are the same as for Steam Boilers.

The Brownell Company
Dayton, Ohio

Automatic Heat---
Uniform Temperatures



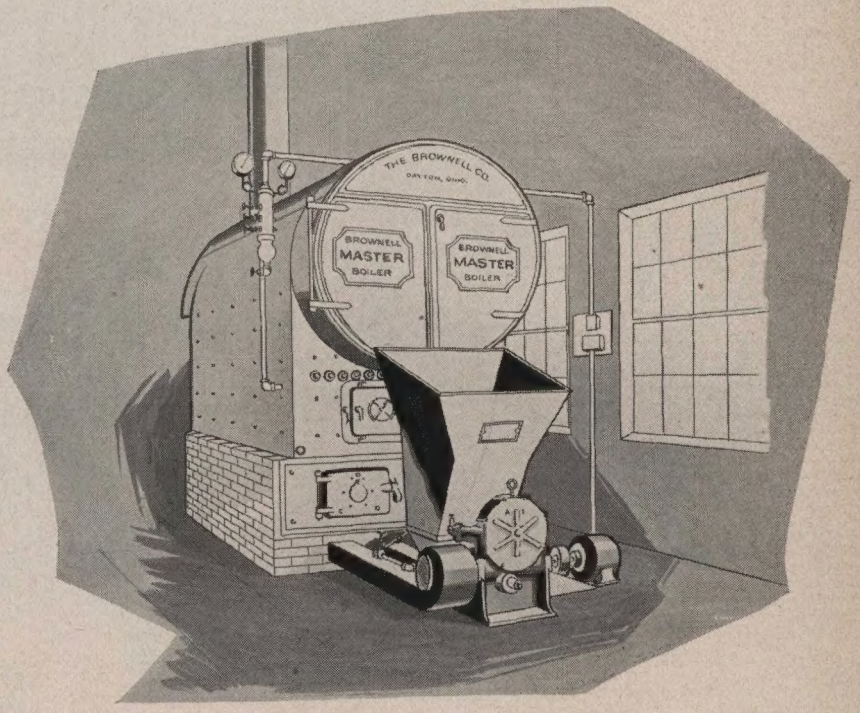
Drawing of a Brownell MASTER Boiler with a Brownell Automatic Underfeed Stoker installed.

Any Brownell MASTER Electric-Welded Boiler can readily be equipped with a Brownell Type A-1 Automatic Underfeed Stoker—and when so operated will develop still greater efficiency than would be possible when hand-fired. The cost of a stoker is as nothing compared with the benefits derived. In fact, no coal fired boiler is considered fully modern unless it is stoker equipped.

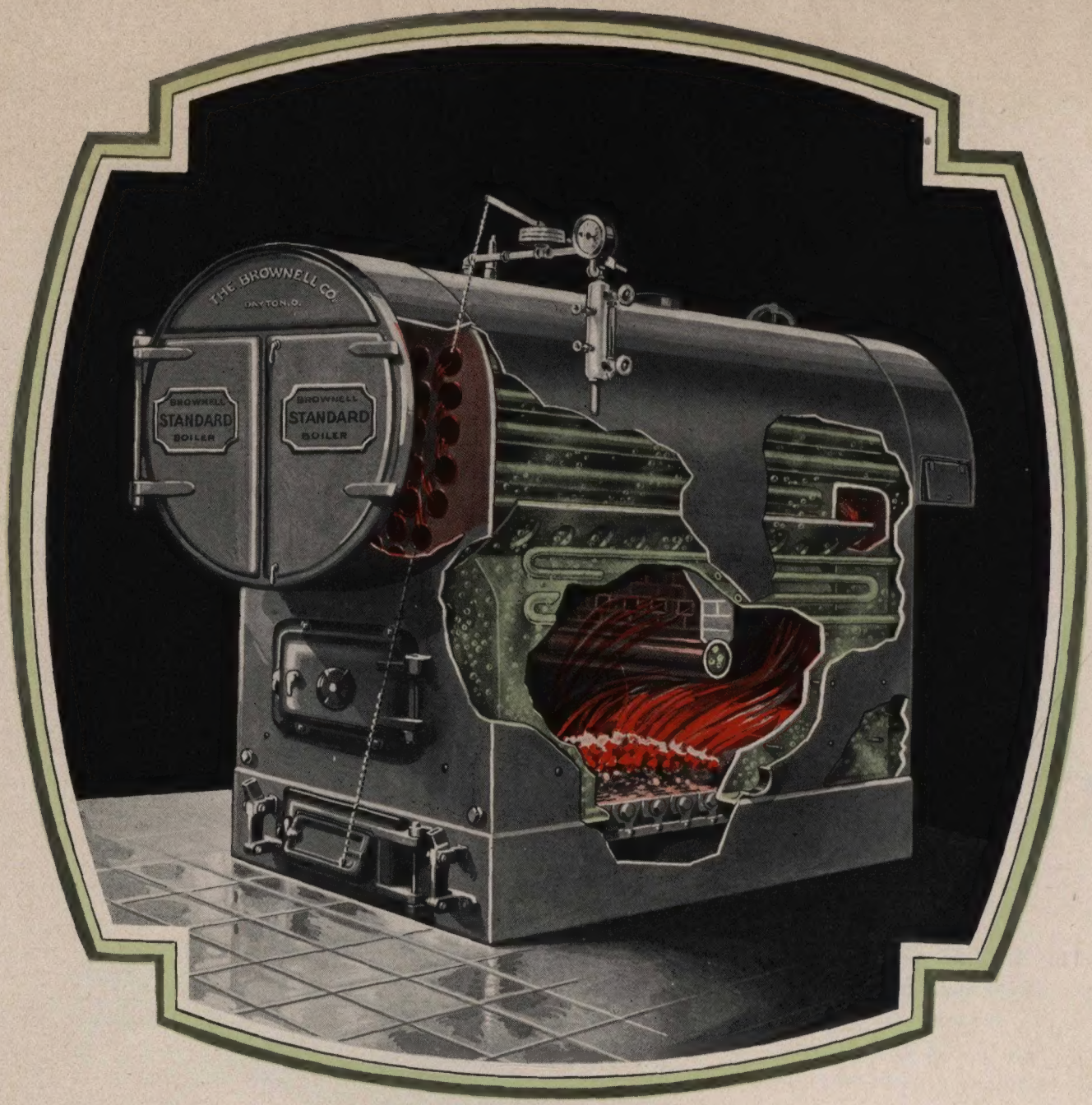
The Brownell Company stands alone as the only company building both boilers and stokers. Consequently the customer who buys both boiler and stoker of the Brownell Company centers all responsibility for the successful operation of his complete unit in one long established concern and avoids all danger of split responsibility.

The Brownell Automatic Underfeed Stoker illustrated on this page is built in its entirety at the Brownell Plant and is in no sense an "assembled" product. It is manufactured in all practical sizes, the proper size being available for any particular requirement.

Technical bulletins, now available, describe the line in detail.



Brownell MASTER Boiler with Brownell Underfeed Stoker installed.



Brownell STANDARD Smokeless Boiler

Electric Welded Steel Made for Coal, Gas or Oil

The Brownell STANDARD Boiler shown above is of the smokeless type. It is of the most advanced design for a boiler of this character. It has an extra large firebox, an unusually large liberating area, including the Special Brownell Tapered Water Leg Feature, a free circulation system, and is a fast economical steamer. It is easy of access for inspection, cleaning or repair.

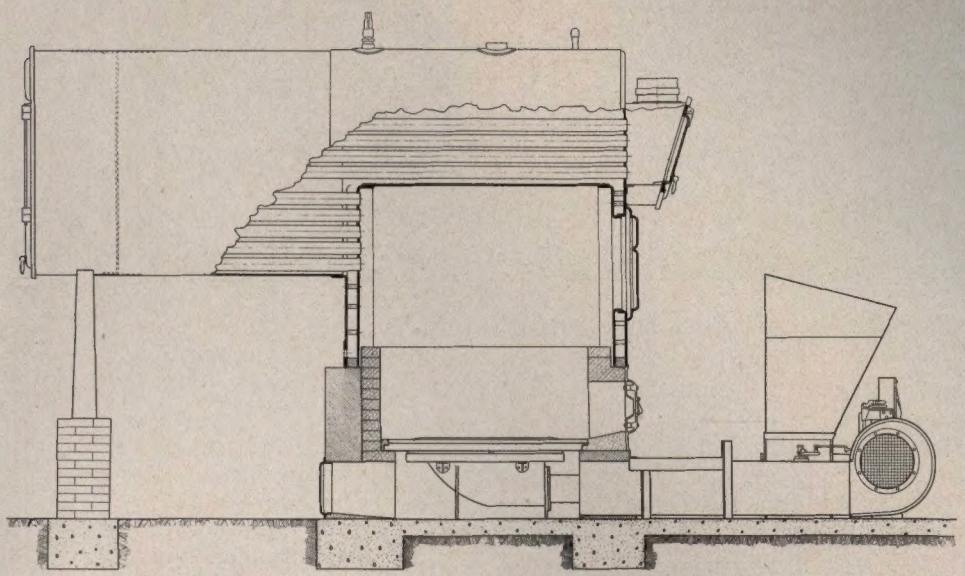
Those interested in a welded steel boiler of the smokeless type will find in the Brownell STANDARD Boiler all the features that make for efficiency, convenience and economy.

This type boiler is furnished in a full range of practical capacities and is very adaptable to the requirements of apartments, office buildings, institutions and homes.

Bulletin S-65 describes it fully.

The Brownell Company
Dayton, Ohio

Riveted Firebox Boiler Modernized by Brownell Stoker



Both Boiler and Stoker designed and built in their entirety at The Brownell Plant. Not "assembled" products.

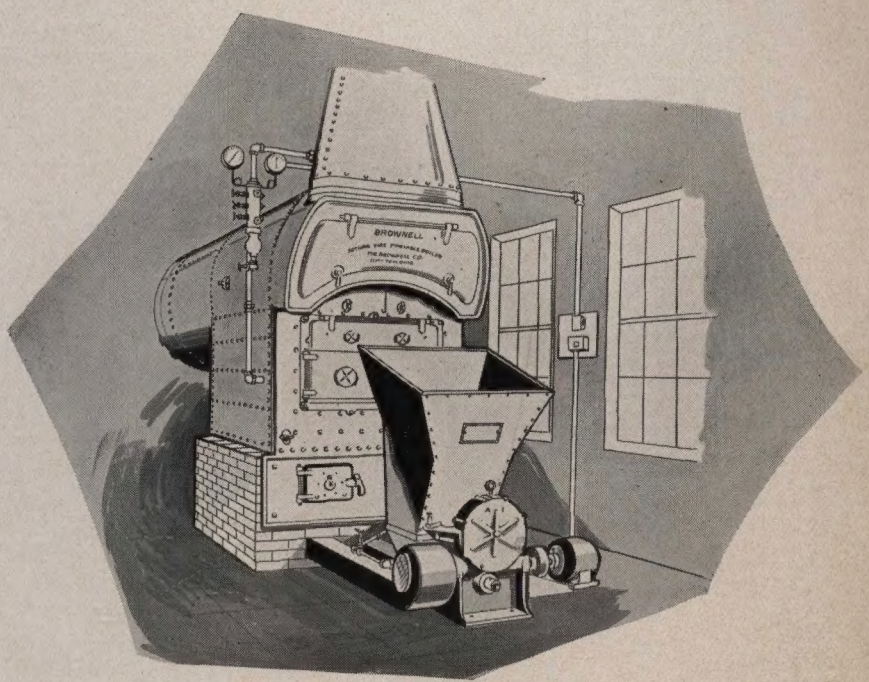
This drawing shows one of the several boilers of riveted steel construction built by Brownell, a Return Flue Portable Firebox Boiler; also how it can be equipped with a Brownell Type A-1 Underfeed Stoker.

Brownell Type A-1 Underfeed Stokers are applicable to high-pressure boilers of the riveted steel type, and when so equipped such boilers become very much more efficient.

The Brownell Company holds the distinction of being, probably, the oldest manufacturer of quality boilers in the entire country. The product is in use throughout the civilized world. Consequently the customer who deals with the Brownell Company obtains the benefit of the wide experience that comes with so many years of specialized manufacture.

The Brownell line of Riveted-Steel, commonly called high-pressure, boilers is complete with regard to both designs and capacities, and most of them are suitable for stoker applications. This page illustrates just one of those applications.

Technical bulletins covering the Brownell Riveted-Steel line upon request.



A Brownell High-Pressure Return Flue Portable Boiler with a Brownell Underfeed Stoker.